U.S. Environmental Protection Agency
Region I, New England
Office of Site Remediation and Restoration
Five-Year Review
Mottolo Superfund Site, Raymond, New Hampshire

I. *Introduction*

Authority Statement The U.S. Environmental Protection Agency (EPA), Region I, New England conducted this review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 121(c), National Contingency Plan (NCP) Section 300.400(f)(4)(ii), and the Office of Solid Waste and Emergency Response (OSWER) Directives 9355.7-02 (May 23, 1991) and 9355.7-2A (July 26, 1994). It is a policy review since upon completion of the remedial action no hazardous substances will remain above levels that allow for unlimited use and unrestricted exposure, but five or more years are required to reach that point.

Purpose The purpose of a five-year review is to ensure that a remedial action remains protective of public health and the environment and is functioning as designed. This document will become part of the Site File and as such will be placed in the repositories located at the Dudley-Tucker Public Library in Raymond, New Hampshire and at the EPA Records Center at 90 Canal Street in Boston, Massachusetts. This review, Type I, is applicable to a site at which response is on-going.

Site Characteristics The Mottolo Site, located in Raymond, New Hampshire is a former waste disposal site. The Mottolo property includes approximately fifty acres of primarily undeveloped wooded land, roughly divided in half by a brook. About two acres of the property remain cleared from a former piggery which operated onsite. The closest residence is approximately 600 feet to the west.

Waste disposal activities took place at the site from 1975 to 1979. Disposal activities were reported to State officials in 1979 and preliminary investigations conducted by the New Hampshire Water Supply and Pollution Control Commission (WSPCC) indicated that the disposal area was contaminating soils, surface water, and ground water with volatile organic compounds (VOCs). From 1980 through 1981, the EPA performed a removal action involving the excavation, staging, testing, on-site storage and off-site disposal of approximately 1,600 containers of wastes and some contaminated soil (see picture below).

In 1987 the Mottolo Site was added to the National Priorities List (NPL) of uncontrolled hazardous waste sites. The Remedial Investigation, conducted at the site by a PRP's consultant indicated that site soils were contaminated with a number of chlorinated VOCs including methylene chloride, 1,1,1-trichloroethane, trichloroethylene, and tetrachloroethylene. Aromatics, including ethyl benzene and xylenes were also identified, as well as acetone. The vertical extent of soil contamination in the former drum disposal area was found to extend from two to four feet below the ground surface to bedrock.

A Record of Decision (ROD) was completed for the Site in March 1991, which identified soil vacuum extraction (SVE) for remediation of the site soil, natural attenuation for remediation of site ground water, and institutional controls until ground water cleanup levels are attained. The Site was divided into two areas; the Former Drum Disposal Area (FDA) and the Southern Boundary Area (SBA).

Metcalf & Eddy was contracted to develop the remedial design and implement the remedial action for soils under the EPA ARCS Program. Work was divided into two phases: Phase I, completed in 1992 included design and installation of a site security fence and a ground water interceptor trench and distribution lateral around the FDA; and Phase II, which included pilot testing, design, installation, and operation of the SVE system in both the FDA and SBA. A Preliminary Close-Out Report was signed on September 30, 1993, signifying construction of the remedy was complete and that the SVE was operational and functional.

After three years of operation of the SVE, soil samples were taken in the fall of 1996 and analyzed for contaminants. No contamination was found above soil cleanup levels in any of the samples. As a result, the system was turned off and all above-ground components of the vacuum extraction system were removed from the Site in December of 1996. The liner was removed from the former drum disposal area in the spring of 1997 and the area was regraded and seeded with grass (see picture below). The fence will remain in place until all ground water cleanup levels have been achieved and the trenches are removed and backfilled.

The New Hampshire Department of Environmental Services (NHDES) has been monitoring the ground water at the site on a quarterly basis for several years under an agreement with EPA. As a result of having removed the source of contamination, EPA expects the ground water to cleanse itself naturally. The size of the contaminated ground water plume has decreased somewhat over time and the contaminant levels have diminished. Off-site migration of contamination does not appear to be occurring. NHDES will continue to monitor the ground water contamination on a semi-annual basis to determine when ground water cleanup levels (drinking water standards) have been met.

II. *Discussion of Remedial Objectives; Areas of Non-compliance*

Remedial objectives were developed to mitigate existing and future potential threats to public health and the environment. These response objectives were:

- ☞ To eliminate or minimize the threat posed to the public health, welfare, and environment by the current extent of contamination of ground water and soils;

- ☞ To eliminate or minimize the migration of contaminants from the soils into the ground water; and

- ☞ To meet federal and state Applicable or Relevant and Appropriate Requirements (ARARs).

Currently, the soils at the Site pose no risk to the public health or the environment since sample results showed no detectable concentrations of hazardous substances. Concentrations of ground water contaminants remain above cleanup levels but the extent and level of contamination appear to be lessening as evidenced by the periodic sampling done by the NHDES. EPA has found no Site-related impact on ground water quality in any residential wells. Institutional controls have not been applied since: 1) no one is using the contaminated ground water at the Site, 2) there is little development pressure, and 3) the only ground water contamination found outside of the property boundaries (emanating from the SBA) appears to have naturally attenuated based on the April, 1998 sampling conducted by the NHDES.

III. *ARARs Review*

A review of the applicable or relevant and appropriate requirements with which the remedy must comply indicates that no changes have occurred which would call into question the protectiveness of the remedy.

IV. *Summary of Site Visit*

On August 18, 1998, the EPA and the NHDES remedial Project Managers inspected the Site and surrounding areas. While there was evidence of attempted forced entry into the property, all gate locks were intact and all monitoring wells inside and outside the fenced area had locked covers. The police have been notified of previous vandalism and forced entry onto the property and have responded with increased awareness. A representative of the property owner was at the Site and indicated that he is keeping a close watch on the property. In addition, NHDES has monitored the property and maintained the integrity of the wells to ensure accurate sampling results.

Over the past several months the EPA Remedial Project Manager has discussed the Site with the Raymond Town Manager who has agreed to make EPA aware of any new development which might occur near the property. During the Site inspection, no new development was noticed, but three homes were listed for sale. Sellers and buyers periodically contact EPA to learn of the status of the cleanup and to determine if off-site properties are affected.

V. *Recommendations*

The periodic (currently twice a year) ground water sampling done by NHDES should continue in order to monitor the progress of natural attenuation of the contamination which emanated from the FDA and to ensure that the SBA ground water contamination remains below cleanup levels.

The potential for residential development should continue to be monitored to ensure that institutional controls are instituted if needed.

Continued vigilance should continue to ensure that vandalism does not result in compromising the integrity of the sampling data.

VI. *Statement on Protectiveness*

I certify that the remedy selected for this Site remains protective of human health and the environment.

VII. *Next Five-Year Review*

In accordance with OSWER Directive 9355.7-2A (July 26, 1994), the next five year-review will be conducted by September 30, 2003, five years from the date of the signing of the Preliminary Close-Out Report (construction completion).

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Date